

ABSTRACT

Data 12010, 12020, etc. to be sent to each of client devices 1201, 1203, etc. from a data server device 1000 are, in a data communication unit 1100, first divided into electric signal packets by a data transmission/receipt control unit 1140, whereby an electric signal sequence tag is added to each electric signal packet, then converted into optical packets 12011, 12021, etc. by an optical signal transmitting unit 1120, and transmitted through an optical signal path 1110. At optical switch 1101, the optical paths of the packets are switched to optical signal paths 1111, 1112, etc. by the actions of optical destination tags 12111, 12121, etc. that are respectively synchronized with optical packets and irradiated by an optical signal transmitting unit 1120. At optical signal receiving units 1131, 1132, etc., the received optical packets are converted to electric signal packets, and reassembled to be original data 12010, 12020, etc. according to the identification information on the reassembly sequence recorded in the sequence tag in an electric signal packet by data transmission/receipt control units 1141, 1142, etc., and distributed to client devices 1201, 1202, etc. as electric signals.